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The Business Value of Enterprise SIP - A CIO View

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Background

CIO's are constantly looking for ways to reduce cost, optimize business capability and improve customer service. Unified Communication (UC) solutions are integrated technologies that are capable of delivering these benefits, and Session Initiation Protocol (SIP) is a foundational component for realizing these benefits.

The deployment of SIP-based UC allows a CIO to address a key goal to improve communications and collaboration in the enterprise while simultaneously being cost conscious. This is a goal of many IT organizations, including my group at Avaya.

What is SIP?

SIP is an open signaling protocol for establishing any real-time communication session developed in the Internet Engineering Task Force (IETF) by common participation from a number of vendors, including Avaya. The communication session can involve a combination of voice, video, and instant messaging and take place on any device that people use for communicating: laptop computer, Smartphone, cell phone, IM client, IP phone, and so on.

Why SIP?

Many people ask "why SIP?" From a CIO's view, the answer must begin with the benefits SIP brings to the business, which is not solely limited to the technological advantages. SIP brings a number of business advantages to an enterprise both in reducing costs and enabling exciting new communications capabilities.

These business benefits include:

1. **Communication Network Simplificatio**n – through consolidation of platforms with optimized dial plan and call routing
2. **Centralized Management** – reducing administration burden and cost
3. **Business Agility** – faster deployment of new/upgraded communication applications to a larger user community
4. **Better Customer Service** – through improved access to people and data
5. **True Unified Communications** (UC) – making video communications as simple as placing a phone call, and allowing calls or conferences to be easily promoted from one mode of communications to another (IM to voice; voice to video), enabling the easy opening of "sidebar" conversations

All of these capabilities can be deployed using a "self-funding model" that helps ensure that the payback from the SIP investment is achieved within a short timeframe.

The Avaya SIP UC solution is delivered on Avaya Aura® Session Manager, which optimizes and centralizes control of communication sessions. This in turn is implemented in conjunction with session border controllers for security between internal and external communications, and with SIP Trunking. This is the foundation of a modern UC deployment for supporting the following important capabilities:

1. Presence

Presence, the ability to locate and determine the willingness and ability of people to communicate, is a key component that SIP brings to the enterprise. While most commonly used with instant messaging, presence can be applied to a much wider range of communications and collaboration use cases. The ability to know whether an individual is available to communicate and which method to choose is especially useful with distributed teams, since it eliminates the need to know the location of a team member. For example, if a person's presence status indicates he or she is available, one can begin with an IM session and if needed, escalate to a phone call by simply clicking on the contact's name. Further, that call can become a conference call by clicking on additional names and even move to a video conference if the presence indicator shows that both parties are video-enabled. SIP enables the easy transition of one form of media to another during a communication session.

Today, we are just starting to envision other types of use cases. For instance, when the customer's presence is accounted for during customer service interactions and a "callback" action is needed, the system could determine when the customer is free and ready to interact and the best method to use to reach him or her based on the customer's preferences and history. Thus, SIP plus presence amplifies the power for proactive communication business solutions as well.

Presence is a valuable feature. However some believe it to be complicated, difficult to implement and secure across the enterprise network and too dependent on vendor-to-vendor data transfer. In addition, since it is unlikely that an enterprise can rely on a single presence technology, it is critical that a CIO be able to unify the presence services from disparate vendors. This is especially true when enterprises wish to use presence-based applications to communicate with partners, customers and suppliers.

SIP and other open, industry standards[1] enable Avaya Aura® Presence Services to collect, aggregate, and publish presence from and to multiple sources and clients, including those from the Avaya portfolio and other vendors' IM and presence environments. For example, interoperability is supported between Microsoft Office Communications System (OCS) and Avaya Aura Presence Services at the server/source level, thereby tying in desktop clients using Microsoft OCS.

2. "User Centricity" vs. "Device Bound"

For Avaya, "user centricity" is simply the ability to consistently use features and functions across multiple devices and networks. As a result, users avoid a key "guessing game" when they want to communicate with an individual. Most of us now have many communications devices from which to choose – the office phone, home phone, Smartphone, personal computer, tablet/iPad, etc. In addition to voice, and more recently video communications, many of these devices have the ability to text message, send/receive email and support the growing number of Social Networking applications.

In this increasingly complex environment, SIP becomes the common denominator for connection and feature consistency across all endpoints. With SIP as the binding technology on the backend, users have the same features on their mobile devices as they have on the desktop to signal their presence, and ability to send and receive messages. It gives users that added flexibility to be where they need to be while still in contact with those who need it. Perhaps most importantly for the enterprise, it does so with additional security that cannot be provided by the more traditional protocol like H.323. With SIP as the underlying transport mechanism, it is easier to integrate with other platforms and applications that follow the SIP RFC.

3. SIP Trunking and Delivering a Simplified Architecture

SIP Trunking provides a CIO with the opportunity to realize hard dollar savings within a short payback period. SIP Trunking is defined as the extension of an internal SIP communication network via a carrier network. Many large carriers such as AT&T, Verizon and BT offer capabilities which, when connected to an Avaya Aura SIP enterprise network, greatly expand the financial benefit of SIP. The potential cost benefit here is in the centralization of trunks and the subsequent elimination of existing trunks at every major location. In addition, these centralized trunks can be located in countries with the most favorable telecommunications rates (depending on country regulations).

According to Gartner, the cost savings of SIP Trunking can be very compelling:

SIP trunks can cost at least 28% less than Primary Rate Interface (PRI) trunks with comparable throughput. The aggregation of SIP trunks in the enterprise yields further cost improvements due to centralized trunking and applications, as well as economies of scale.

Gartner June 2010

The benefits of SIP Trunking depend on the organization, their existing carrier agreements, the number and location of users and their specific call usage patterns. Each enterprise needs to review its own unique situation to determine its specific cost savings profile, but, when implemented well, SIP Trunking represents a significant financial opportunity.

The use of a SIP trunk connection strategy may also simplify administration for the organization since SIP trunks typically use the same Internet connection profiles used for data. This eliminates installation and maintenance of BRI/PRI connections at each location. Certainly, there are a number of other factors to be considered in implementing SIP Trunking but, the trend in this direction is clear. Carriers are also continuing to expand and simplify their offerings even as they expand their capabilities globally.

Using SIP, the architecture of the network shown below can be significantly simplified. In this case, an existing, large scale global network has numerous PRI's distributed among sites for PSTN connectivity.

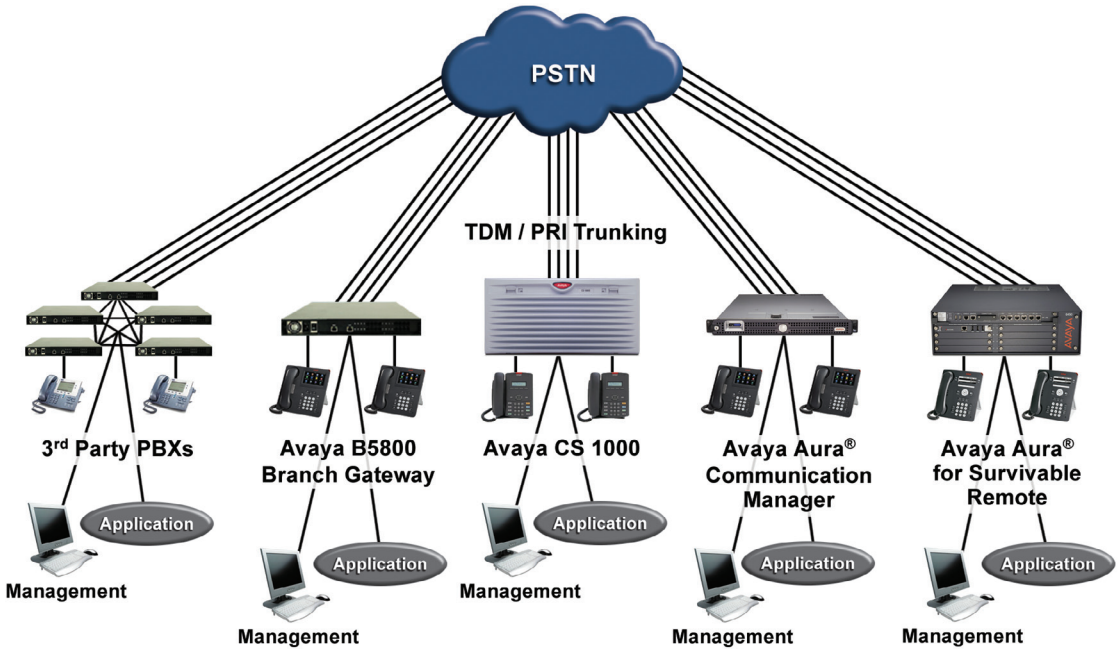

Figure 1 - Current Architecture (logical view)

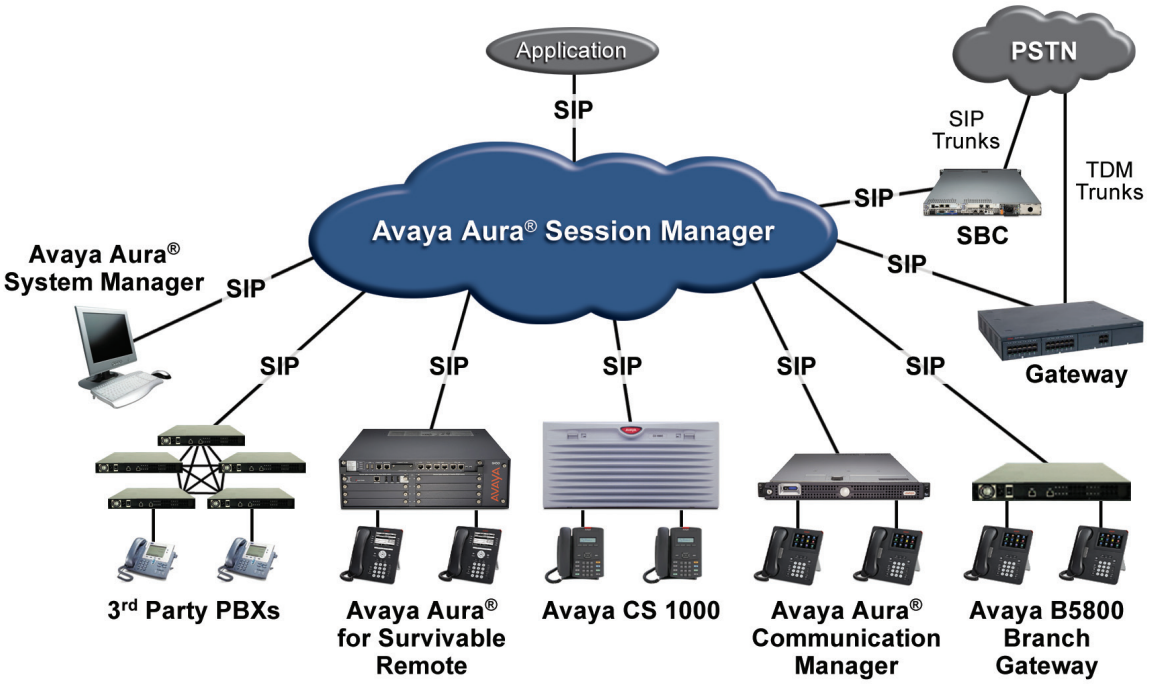

Figure 2 - Future Architecture (logical view)

4. Innovative Communications

SIP enables a number of exciting new end-user features and functions. Some are based on capabilities such as session/caller ID and the ability to encompass other media types such as video. A whole host of possibilities are available to the users using both existing and next-generation endpoints.

The Avaya Flare® Experience running on an Avaya Desktop Video Device is an example of a SIP endpoint that combines, voice, video, IM, email & social networking into a single communications environment for the user.

Avaya web.alive™ — the virtual avatar-based web conferencing application — also uses SIP to simplify the communications connectivity between users thereby allowing extremely large-scale meetings. Avaya web.alive is a great example of creating an innovative communication solution on an open standard SIP platform combining users and communication channels in a very unique way.

5. Ease of Support

SIP enables:

a) **Dial plan simplification**. With Avaya Aura® Session Manager(s) controlling media channels, dial plans can be coordinated in a central location rather than at each local site. This reduces the overhead of managing the dial plan and reduces the headcount requirement at disperse locations.

b) **Direct dialing to all extensions** with no need to limit telephone numbers to a full 10 digits. Direct Inward Dialing numbers can also be assigned for every extension – minimizing the need for attendant (auto or manual) support.

c) **Number portability**. If, for example, a branch office is closing or moving, it is possible to retain important direct dial numbers even if the physical location of the extension changes (e.g. using AT&T's FlexReach Service in the U.S.). With this approach the same local telephone number would remain available to users, avoiding any confusion or disruption for callers.

d) **Easier integration of applications and services** allowing centralized communication applications that can be provided to the entire user community or to a specific subset of users regardless of their location. It no longer requires updates to every PBX in the enterprise, which helps to decrease operational costs and improves reach for those services.

Conclusion

From a CIO's perspective, SIP is a key enabler for a long term UC strategy. The implementation of SIP simplifies communications, removes proprietary protocols and expands communication product features and functionality beyond the boundaries of the enterprise. Proprietary solutions can box in the enterprise – especially in communications. Communications solutions are a strategic investment that must stand the test of time, yet provide the flexibility to accommodate ongoing changes in business requirements. Because SIP is an open standard protocol, many vendors develop applications and interoperate using SIP, which makes it the smart choice for today's CIO to purchase SIP based platforms.

While providing advanced communication capabilities and simplifying the communication architecture, SIP most importantly can provide hard cost savings in terms of toll and trunk/access reductions and potentially reduce support costs by eliminating complex dial plan support across large enterprises. SIP also reduces the

need for local communication expertise by centralizing overall control and delivering a communication solution which is far easier to manage with a potentially smaller team. Each enterprise should perform the analysis to understand its potential SIP savings opportunity.

With SIP, the game changes for IT. New communication services based on SIP can be delivered simply with software deployed from the enterprise data center. This decreases operational cost and improves the availability of those services for the entire enterprise; no longer does deployment depend on function or location.

While the UC community and its users continue to explore the competitive advantages of SIP, we have seen that it advances business communications – bringing the enterprise, its people and its customer closer together.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

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